

Apple HillSM/Camino Economic Study

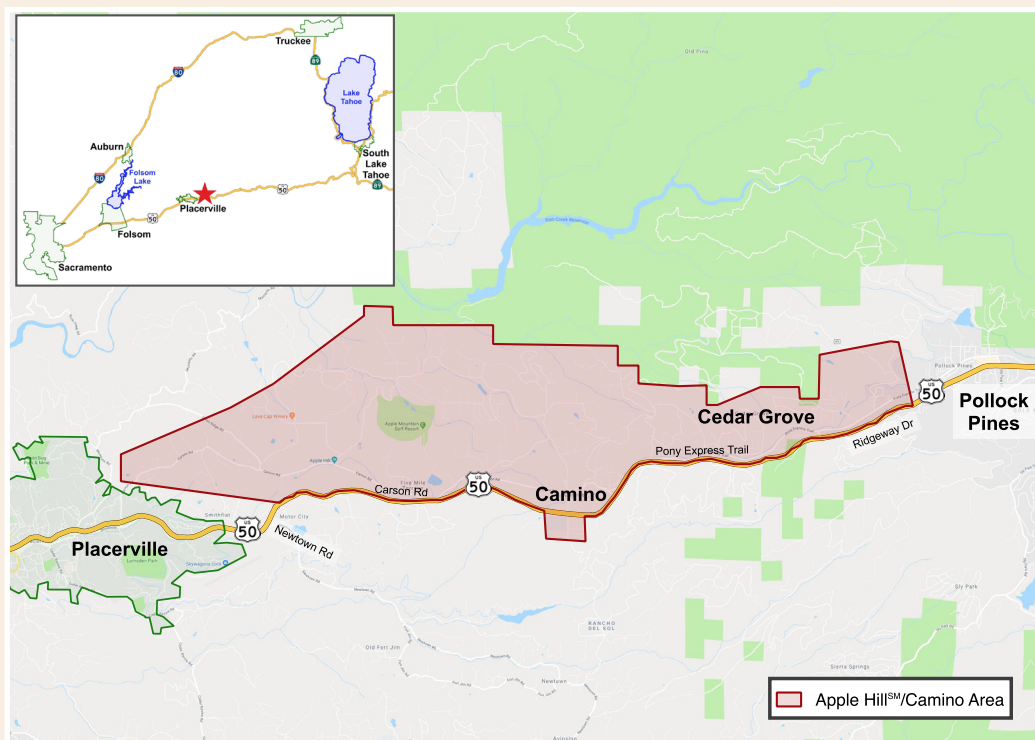


INTRODUCTION

This Study, commissioned by El Dorado County (County), evaluates the economic role of the Apple HillSM/Camino Area (Study Area). The Study Area, shown in **Figure 1**, comprises 8,710 acres and is generally bounded by the Schnell School Road interchange (to the west), the Sly Park Road interchange (to the east), the El Dorado National Forest (to the north) and Highway 50 (to the south). The Study Area accounts for approximately 1 percent of unincorporated El Dorado County's land and its 5,300 residents represent 4 percent of total unincorporated County population.

The Study Area contains the unincorporated communities of Camino and Cedar Grove, and is also home to numerous agricultural orchards, farms and, wineries, in addition to other local and supporting services. Over time, the number of visitors to the area, particularly between September and December, has grown, increasing sales activities for agricultural producers but also traffic congestion and impacts on local roads.

FIGURE 1
Study Area



Prepared by New Economics & Advisory, January 2019.

Building upon a series of prior studies and reports, this Study analyzes the economics of the Study Area, including jobs and businesses, economic impacts, annual sales tax revenues generated to the County, and transportation management costs incurred by the County to support the area. The goal of the Study is to use the economic insights to help inform decisions about how to continue and increase investment in the Study Area.

ORGANIZATION OF THIS SUMMARY REPORT

This Summary Report highlights key findings of various aspects of the Study, and is divided up into these individual sections:

- Local Economic Drivers, [page 6](#)
- Economic Impacts, [page 12](#)
- Visitation Patterns/Visitor Profile, [page 17](#)
- County Sales Tax Revenues, [page 28](#)
- County Transportation Management Costs, [page 32](#)

Each section describes a particular aspect of the Study Area's economic role for the County and contains relevant statistics. In some cases, one or more Area(s) for Future Study are also identified.

WHAT IS AGRITOURISM?

Much of the economic activity described in this Study is associated with agritourism occurring on farms and/or wineries, as well as related, spin-off activities. A 2011 UC Agriculture Article defines agritourism as **“any income-generating activity conducted on a working farm or ranch for the enjoyment and education of visitors.”**¹ For purposes of this Study, agritourism also includes income-generating activities at wineries. As described in a 2014 Bay to Basin Study, **“these activities can create primary or supplemental income farm stands or shops, U-pick, farm stays, tours, on-farm classes, fairs, festivals, pumpkin patches, Christmas tree farms, winery tours/wine tasting, orchard dinners, barn dances, guest ranches, horseback riding, etc.”**² Site visits conducted by New Economics during October and November of 2018 confirmed that farms and wineries in the Study Area include a large variety of income-generating activities consistent with this broader description.

A 2009 survey conducted by UC Davis revealed that farm operators in California are primarily motivated to engage in agritourism for economic *and* social reasons. Economic reasons include increasing profitability, marketing farm

1. Holly A. George, Christy M. Getz, Sherman D. Hardesty, Ellen Rilla, California agritourism operation and their economic potential are growing, April 2011.

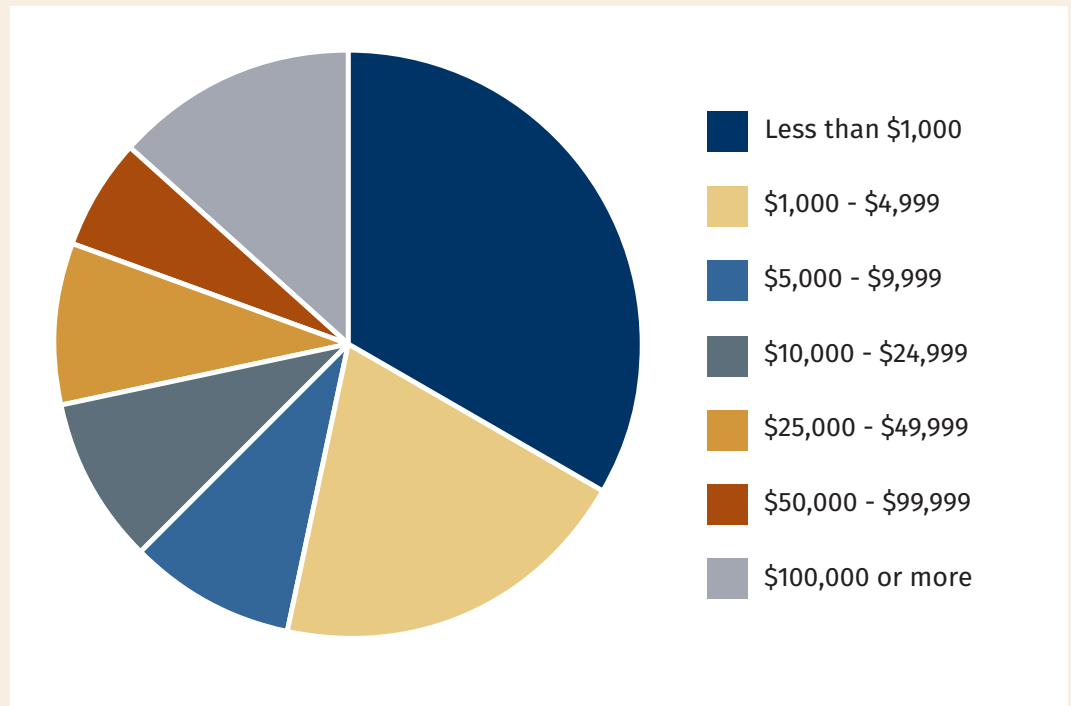
2. El Dorado County Transportation Commission, Bay to Tahoe Basin Recreation and Tourism Travel Impact Study, October 2014.

INTRODUCTION



products, and employing family members, while social reasons include educating visitors, working with people, and providing community outreach.³ The study also recognizes criticisms of tourism, including agritourism, yet it concludes that the benefits are substantial. The researchers conclude that the average farm engaged in agritourism employs an average of 6-7 workers (full time and/or part-time) working mainly or exclusively on agritourism activities; 13% of these jobs pay \$100,000 or more as shown in **Figure 2**.

FIGURE 2
Wages and Salaries Paid by Agritourism Operations (2011\$)



Source: California agritourism operations and their economic potential are growing, Figure 6 Range of wages and salary expenses paid by agritourism expenses, 2011.

3. Holly A. George, Christy M. Getz, Sherman D. Hardesty, Ellen Rilla, California agritourism operation and their economic potential are growing, April 2011.

**EXISTING
STUDIES**

New Economics reviewed existing studies and reports that provide insights on agritourism trends in the Study Area. The key objectives of this research were to understand how agritourism has been defined in the past, identify past visitation volumes and characteristics, and collect baseline data that could be potentially updated as part of the current Study. Descriptions of the prior studies that were reviewed by New Economics are explained below as well as shown in **Figure 3**.

In 2008, an Economic Impact Study (2008 Economic Impact Study) commissioned by the Apple Hill Growers Association (AHGA) reported estimated impacts of AHGA member ranches. The study analyzes the direct, indirect and induced impacts of these ranches.

In 2016, the County commissioned an agritourism mobility study (2016 Agritourism Mobility Study) to evaluate the specific causes of traffic congestion and mobility challenges associated with agritourism travel in El Dorado County, including the Apple HillSM area. This study does not estimate total visitors, trips, or car during the peak season; instead, it focuses on traffic congestion during the peak fall harvest season.

In 2014, the EDCTC commissioned a study (locally referred to as the “2014 Bay to Basin Study”) of travel impacts to the Tahoe Basin by visitors from Sacramento and the Bay Area. The study specifically evaluates the impacts of regional and interregional tourism travel on the state highway system (including both Highway 50 and Highway 80). Although its geographic boundaries include the Apple HillSM/Camino area, the study focuses on the impact of tourists whose ultimate destination was Lake Tahoe. As such, agritourism is evaluated as a stop along the way and day trippers to the Apple HillSM/Camino area are not analyzed. Further, the study focuses on summer months (in particular late June through mid-July), which is outside the Study Area’s peak season.

In 2011, California Agriculture, a University of California Agriculture and Natural Resources publication, published an article (2011 UC Agriculture Article) summarizing statewide agritourism trends based on research dating back to 2000. The article posits that urbanization patterns have reduced profits for California farmers, leading them to seek alternative revenue-generating activities to maintain their businesses.

FIGURE 3
Existing Studies

Year Published	Report Name Used in Study	Full Report Name	Authors	Published By	Topics of Interest
2008	2008 Economic Impact Study	Economic Impacts of the Apple Hill Growers Association's Members	Ryan Sharp, Director Helen Schaubmayer, Deputy Director Angela Owens, Research Analyst	Sacramento Regional Research Institute	The indirect and induced impacts of Apple Hill Growers Association member ranches.
2011	2016 Agritourism Mobility Study	California agritourism operation and their economic potential are growing	Holly A. George Christy M. Getz Sherman D. Hardesty Ellen Rilla	California Agriculture 65(2) 57-65	The statewide agritourism trends in California dating back to 2000.
2014	2014 Bay to Basin Study	Bay Tahoe Basin Recreation and Tourism Travel Impact Study	El Dorado County Transportation Commission	El Dorado County Transportation Commission	Travel impacts to the Tahoe Basin by visitors from Sacramento and the Bay Area.
2016	2011 UC Agriculture Article	El Dorado County Sustainable Agritourism Mobility Study	Fehr & Peers	Fehr & Peers	Traffic congestion and mobility challenges associated with agritourism travel in El Dorado County.
2019	2019 Economic Study (this Study)	Apple Hill SM /Camino Economic Study	New Economics & Advisory	New Economics & Advisory	Evaluates the economic role of the Apple Hill SM /Camino Area (Study Area)

Prepared by New Economics & Advisory, January 2019.

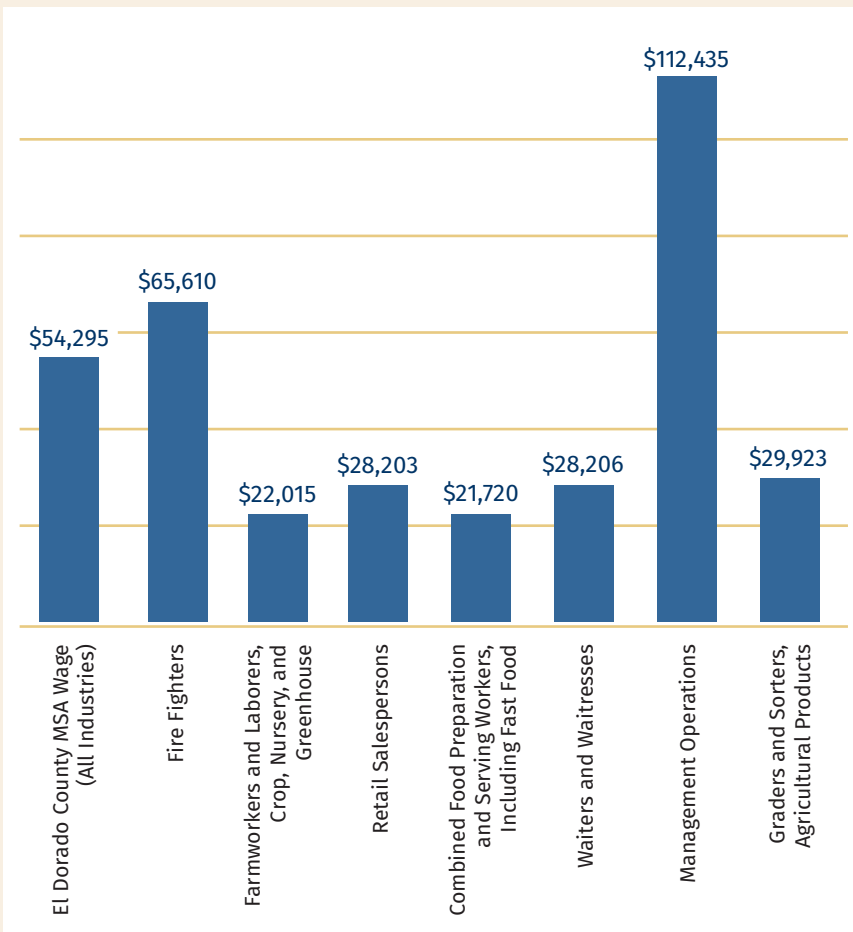
Apple HillSM/Camino Economic Study



LOCAL ECONOMIC DRIVERS

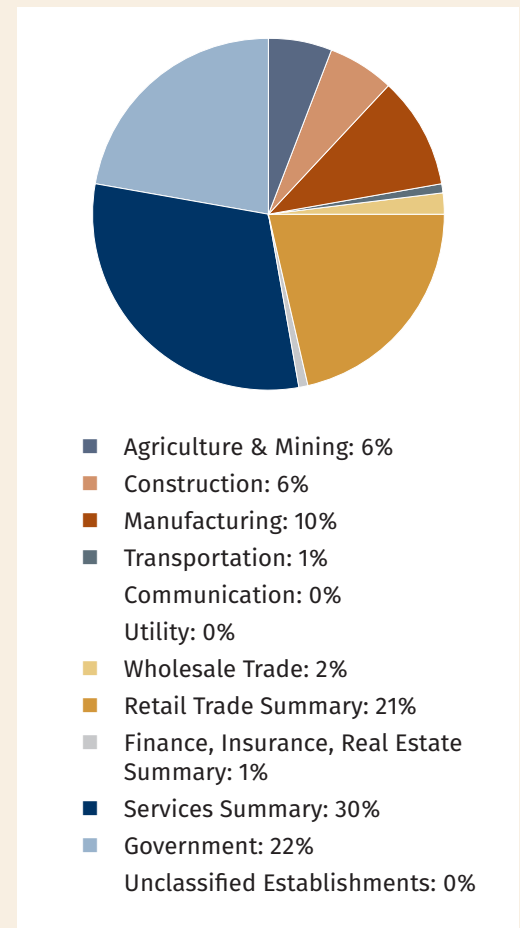
The Study Area contains an estimated 135 business establishments and 971 jobs, which account for about 3 percent of businesses and jobs in all of unincorporated El Dorado County. These local establishments fall into a variety of economic sectors but tend to be small employers when compared to regional averages. In addition, the most common Study Area occupations in job-rich sectors appear to have relatively low wages, although management occupations pay about twice the County's mean annual wage.

FIGURE 4
Wages of Select Occupations (2016\$)



Prepared by New Economics & Advisory, January 2019.

FIGURE 5
Jobs by Sector (2018)

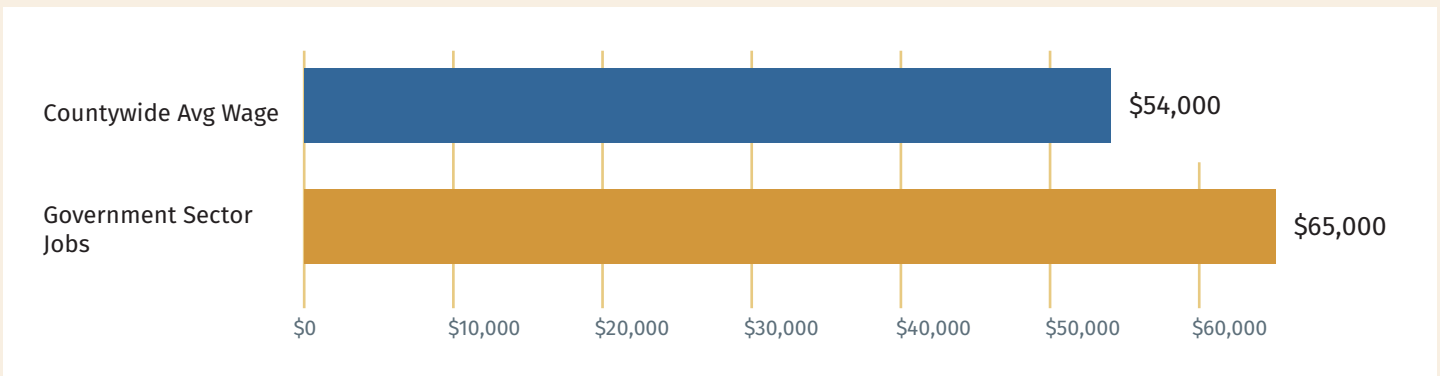


Prepared by New Economics & Advisory, January 2019.

GOVERNMENT SECTOR

Government jobs and wages play an important role in the Study Area. The Government Sector accounts for the largest share of regular jobs within the Study Area and provides jobs with relatively high wages, which is 20 percent higher than the countywide average wage. Government jobs in the Study Area are service-oriented, including mostly fire and ambulance services, and do not appear to be directly linked to other industry activity occurring there. However, the Study Area provides a strategic location for these jobs.

FIGURE 6
Government Jobs and Wages (2016\$)



Prepared by New Economics & Advisory, January 2019.

AGRITOURISM CLUSTER

An Agritourism Cluster, which includes approximately 38 enterprises, diversifies economic activity in the Study Area. The Agritourism Cluster is made up of farms, orchards, vineyards, wineries, wholesale fruit juices and fruit/vegetable growers and shippers. These businesses are classified in a variety of standard industry sectors, including Agriculture & Mining, Manufacturing, Wholesale, and Home Improvement, as well as Food Stores and Miscellaneous Retail. In addition to these year-round businesses, individual vendors sell crafts during peak seasons; these crafters sell a variety of items, mostly handmade, that complement and enrich the visitor’s farm experience.

FIGURE 7
 Agritourism Cluster

	# of Businesses	# of Jobs
Agritourism	38	305
Total w/ Crafters	285	1,121
Agritourism as a % of Total Study Area	13%	27%

Prepared by New Economics & Advisory, January 2019.

FIGURE 8
 Agritourism Growers & Crafters



*Estimate derived from two site visits, local association websites and permit information from sales tax data.
 Prepared by New Economics & Advisory, January 2019.

Historically, the Study Area has been most identified with apple farming, other fruit and vegetable farming, winemaking, and Christmas tree farming.



Apple Farming

Most of the 30 apple farms in the Study Area sell all of their produce directly to visitors, although some growers buy apples from each other to increase the variety they sell on-site. A few ranches also sell apples wholesale; these ranches sell their own apples as well as apples bought from other Apple HillSM ranches to outside sources, such as grocery stores.



Wineries

Wineries represent a second component of agritourism that provides a year-round opportunity for economic activity. While the Study Area contains three of the largest wineries in the local American Viticulture Area (AVA), most wineries are small, producing 2,000 cases or less annually. There are approximately 15 wineries in the Study Area; most of these wineries derive the bulk of their revenue from wine sales. Very little comes from other sources of revenues, such as outside vendors.



Christmas Tree Farms

Christmas tree farms are open to the public during only a short time of year, but offer a unique, holiday-oriented experience. In recent years, Study Area Christmas tree farms have experienced very high levels of demand for Christmas trees, which is shortening the Christmas tree season. These conditions have been favorable for Christmas tree farmers because they can sell all of their trees at retail rates in a short amount of time. During economic recessions, in contrast, a larger share of trees is sold to wholesale buyers because more customers choose to rely on artificial trees and/or eliminate additional expenses associated with a tree-cutting outing.

Local Associations

Agritourism activities have been nurtured by three local associations actively engaged in helping to grow this cluster:

- **Apple Hill Growers Association (AHGA)**. The AHGA has been in existence since 1964 and currently has 52 members. Association members include nearly all of the existing apple ranches in the Study Area, although some non-member ranches are large and attract a significant share of visitors.
- **El Dorado County Winery Association (EDCWA)**. The EDCWA has 13 member-wineries in the Study Area. This organization was started in 1978 and covers all of El Dorado County, including (but not limited to) the Study Area. El Dorado County became a federally-recognized AVA in 1983. To qualify for an AVA, at least 85 percent of grapes used to make wine in that area must come from within the area.
- **El Dorado County Christmas Tree Growers Association (EDCCTGA)**. This association has 25 members.

SMALL SUPPORTING SERVICES CLUSTER

A small Supporting Services Cluster expands local economic activities. Some Study Area businesses and jobs in other industry sectors both influence and are influenced by the Agritourism Cluster. These businesses, which include restaurants, hotels, gas/charging stations, etc., allow visitors to extend their time, increase their overall spending, and expand the diversity of their experiences in the Study Area.

Supporting Services Cluster businesses generally operate on a year-round basis yet achieve significantly higher sales during peak seasons associated with agritourism activities. Anecdotal interviews with some operators indicate that these businesses earn between 60 and 75 percent of annual revenues during peak agritourism seasons. Their ability to sustain businesses during non-peak seasons is tied to local community patronage.

FIGURE 9
Supporting Services Cluster (2018)



Prepared by New Economics & Advisory, January 2019.

SEASONALITY

Seasonality plays an important role in the local economy, increasing the amount of sales, jobs, and wages for a portion of each year. The arrival of Specialty Retailers (i.e. craft operators), for example, adds 150 or more workers (assuming one person per booth) during August-November, increasing the upper range of total businesses to nearly 300 and the number of total, on-site employees to about 1,100 in the Study Area.

Craft business vendors are largely stationed at apple farms, whereas wineries and Christmas tree farms have limited interaction with craft vendors. New Economics observed 150 or more independent craft businesses operating at about five apple farms in October and November. An existing County Ranch Marketing Ordinance (RMO) allows farms to operate bake shops, food stands, and dining facilities during the harvest season; farms can also engage in handicraft sales of domestically-produced items made by hand (as long as they are not mass produced). Few craft businesses appear to be included in employee headcounts reported by farms to third-party data collection entities, as the craft businesses are separate establishments, not farm employees. Furthermore, many crafters are based outside the County and would, therefore, be included in the job counts of their headquarter location instead of the Study Area.

During peak-season, total wages also increase. Some agribusinesses hire seasonal employees, which add workers and wage revenue to the area. For example, Christmas tree farms tend to have few, if any, year-round employees; but, during the peak season (November-December), some farms hire week-end cutters, workers that help families select, cut down, and/or load trees onto cars. Other agribusinesses expand work hours for existing workers to meet the additional demands associated with peak-season visitation; this approach allows businesses to expand capacity with consistent customer service delivery while avoiding expending additional resources to train new workers.



Area for Future Study: Additional Goods for Sale

The County's RMO contains regulations regarding the scale and type of additional goods permitted for sale, such as bake shops, food stands, and handicrafts. A site tour of craft operators revealed that some massed-produced items and/or items not produced domestically were available for sale. Enforcement of the RMO could affect the number and/or type of Specialty Retailers jobs and businesses.



Handmade items



Mass-produced items



ECONOMIC IMPACTS



Apple HillSM/Camino is a significant driver of economic activity in the County. This section provides an estimate of the major economic impacts that can be quantified, including annual economic output, jobs, and labor income.

AGRICULTURAL SIGNIFICANCE

The agricultural production at Apple HillSM/Camino represents a significant share of the County's total annual agricultural output. The Study Area produced an estimated \$29.0 million (in 2018\$), which comprises about 40% of the County's total agricultural production value. The majority of the agricultural production in the Study Area (approximately \$22.5 million) comes from apples, while other major products include wine grapes (\$3.0 million) and Christmas trees (\$2.1 million) and others (\$1.3 million).



FIGURE 10
Agricultural Production Values (2018\$)

Category	Apple Hill SM / Camino	Apple Hill SM as a % of County
 Apples	\$22,500,000	99%
 Winegrapes	\$3,100,000	34%
 Christmas Trees	\$2,100,000	80%
 Other	\$1,300,000	N/A
Total	\$29,000,000	40%

Source: El Dorado County Department of Agriculture, 2018.
Prepared by New Economics & Advisory, January 2019.

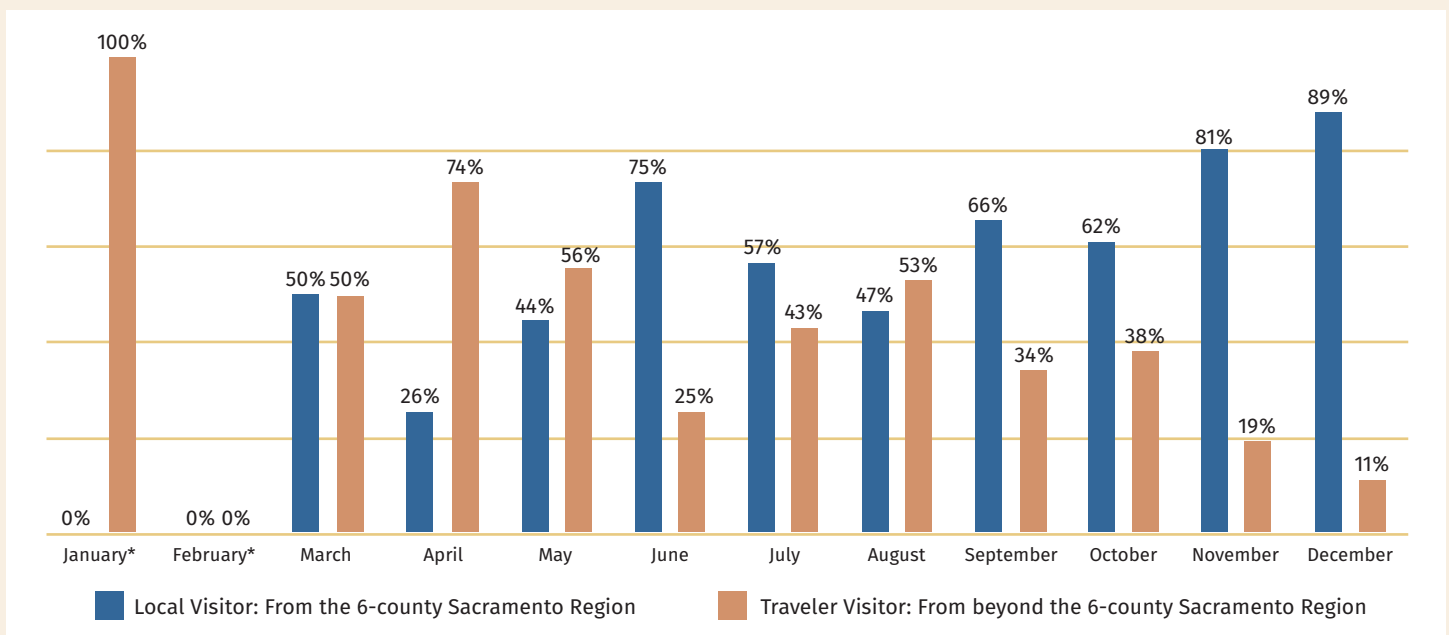
VISITOR SPENDING

In addition to agricultural production, Apple HillSM/Camino attracts other visitor spending in the County. As visitors come to the Study Area from various areas, they spend money on a variety of items in addition to agricultural products, such as wine, restaurant food and beverages, gasoline, souvenirs and craft items, vendor food and beverages, and other goods. Based on an analysis of taxable sales data, other, non-agricultural Visitor Spending Within the Study Area accounts for an additional \$31.0 million annually. As discussed further in the County Sales Tax Revenues section, only some of this spending generates sales tax revenues to the County.

VISITATION PATTERNS

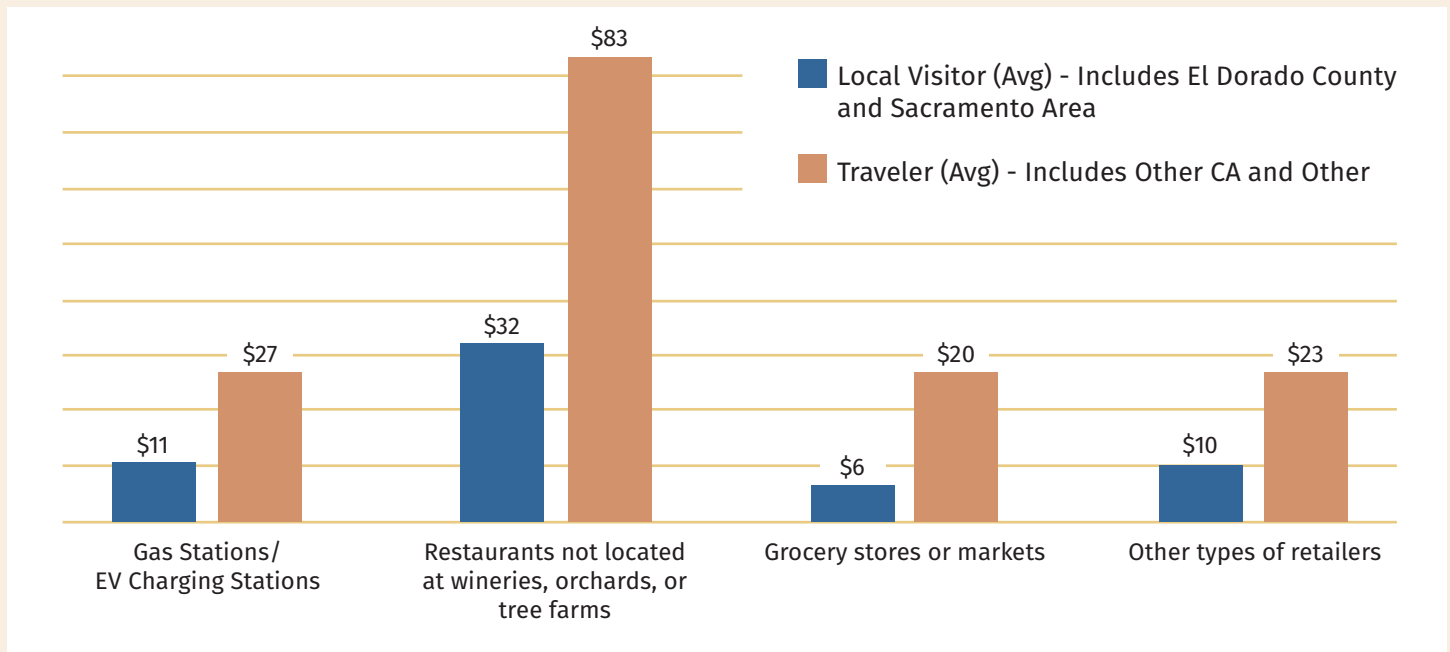
Locals and travelers have some common visitation patterns but also exhibit unique traits. This Study differentiates the spending from “Local Visitors,” which are defined as those who come from within the Sacramento Region (including El Dorado County), versus “Travelers,” which come from areas outside the Region. Local visitors account for anywhere from 0 percent (in January and February) to 89 percent (in December) of total visitors. Local visitors represent a relatively large share of visitation during the summer

FIGURE 11
 Visitor Origin by Month



*Sample size may be too small to accurately reflect visitor patterns.
 Source: 2018 Visitor Survey, EMC Research Inc.
 Prepared by New Economics & Advisory, January 2019.

FIGURE 12
 Spending Per Trip Outside the Study Area but Elsewhere in El Dorado County



Source: 2018 Visitor Survey, EMC Research Inc.
 Prepared by New Economics & Advisory, January 2019.



months (June through August), as well as November and December, and make up the largest share of visitors to apple farms and Christmas tree farms. These local visitors also spend an average of \$53-64 per group outside of the Study Area but within El Dorado County; more than half of this spending is at restaurants, most likely before or after their visit.

In contrast, travelers, who come from the Bay Area, Central Valley, other California destinations, Nevada, and elsewhere, account for a smaller share of visitation. They tend to make up a more prominent share of total visitation in April-May and August and are also most likely to visit wineries and apple farms. Also, they spend 2.5 to 2.8 times as much per group (\$150-157) outside of the Study Area but within El Dorado County; most of this spending is on restaurants, most likely before or after their visit. The Technical Appendix to this Summary Report contains the detailed calculations made by EMC Research Inc., that support this finding.

SPENDING FROM VISITORS AND AGRICULTURAL PRODUCTION

Apple HillSM/Camino is responsible for (conservatively) \$60 million in total direct sales within the County each year, which includes both agricultural production and spending on other goods within the Study Area. This \$60 million estimate is conservative because visitors to the Study Area often stop and patronize other local businesses elsewhere in the County, but this spending has not been quantified. In addition, some key spending categories such as lodging and non-taxable services are also not included in this estimate.



Area for Future Study: Annual Visitor Counts and Per-Party Spending

In order to capture the complete economic impact of the Study Area from visitor spending, a reliable estimate of the number of annual visitors to Apple HillSM/Camino should be prepared. The exact number of annual visitors to the Study Area is not known. Prior studies have estimated the number of cars during peak-season weekends, and individual farms and wineries take regular counts of visitors. However, no unified effort has been made to develop an annual count. Such a count would need to account for overlap of visitors.

Once the total number of visitors (or trips) has been quantified, a per-visitor or per-trip spending factor can be applied in order to estimate the total annual spending of Apple HillSM visitors. This spending factor would require a new survey to be distributed to Apple HillSM visitors.

SPIN-OFF IMPACTS

The total economic impact of Apple HillSM/Camino is amplified when spin-off activities such as employee expenditures and sales of supplies needed for agricultural production are considered. When including all spin-off activity generated by Agricultural Production and Other Visitor Spending Within the Study Area, the Apple HillSM/Camino businesses are estimated to generate \$88.7 million in total economic output, and support 2,075 total jobs and \$31.6 million in labor income within the County. These figures include direct, indirect, and induced impacts that account for spin-off activity that are driven by the Agricultural Production and Visitor Spending in the Study Area, including sales to supporting businesses and employee spending.

JOB IMPACTS

The economic activity driven by Apple HillSM/Camino agritourism supports a variety of jobs throughout the County. In total, agritourism in the Study Area supports over 2,000 direct, indirect and induced jobs per year throughout the County, which includes part-time and full-time jobs. While the agricultural sector holds the largest share of jobs, jobs in other sectors such as real estate, restaurants, and other miscellaneous retail are also supported by the economic activity of Apple HillSM/Camino.

FIGURE 13
Major Quantified Economic Impacts (2018\$)



Prepared by New Economics & Advisory, January 2019.



VISITATION PATTERNS/VISITOR PROFILE

This section assesses the key traits of visitors to the Apple HillSM/Camino area, including their point of origin, number of times visited, places visited, goods purchased, and perception of the area. This evaluation was conducted through interviews with key stakeholders, a Visitor Survey and Supplemental Winery Survey and review of existing studies. The Visitor Profile described in this section identifies key attributes and trends in visitation to the Study Area.

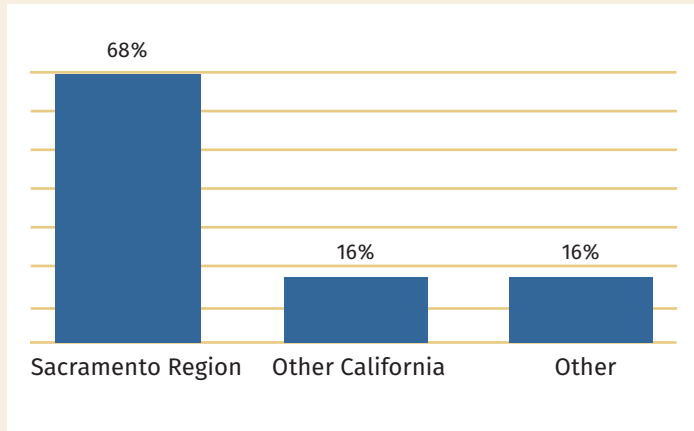
POINT OF ORIGIN, FREQUENCY OF VISITATION

Multiple prior studies have identified visitor origin patterns for the Study Area. The 2008 Economic Impact Study estimated visitor origin as being predominantly (70 percent) from outside El Dorado County, including 10 percent from out-of-state (i.e. Nevada). Data collected from cell phones and GPS devices for the 2016 Agritourism Mobility Study indicated that over half of peak-season visitors come from the Sacramento Region. According to the data, 20% of visitors were from West El Dorado County, 33% were from the Sacramento Metropolitan Area, 31% were from the Bay Area, 9% were from Nevada/ East El Dorado County, and 7% were from other locations.

About the Visitor Survey

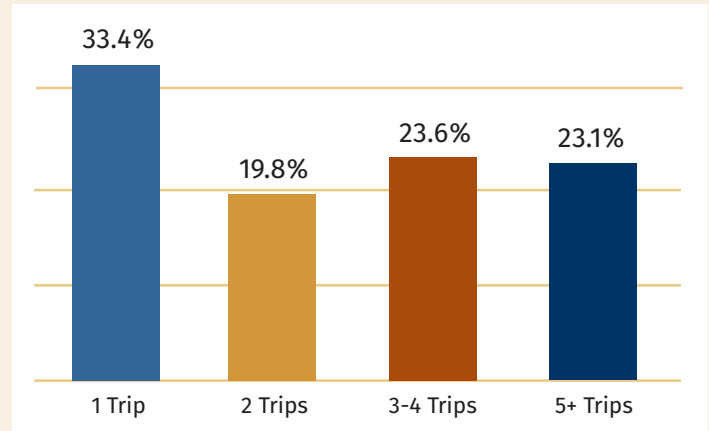
The Visitor Survey, designed by EMC Research, Inc., was shared with the County and Stakeholders to disseminate via the internet, email, and social media over a 2-week period in December of 2018. The survey was completed by approximately 420 respondents. Because survey participation was anonymous, it is unknown if the responses proportionally represent the total number of visitors to Apple HillSM/Camino. Also, the overall number of responses appears to be relatively small considering that the AHGA estimates visitation in the range of 1 million persons per year and prior traffic studies estimate peak season travel of up to 40,000 cars per day. Those caveats being acknowledged, the findings presented in this Summary Report presume that Visitor Survey responses are reflective of the larger pool of visitors to the Apple HillSM/Camino area.

FIGURE 14
 Visitor Origin (2018)



Source: 2018 Visitor Survey, EMC Research Inc.
 Prepared by New Economics & Advisory, January 2019.

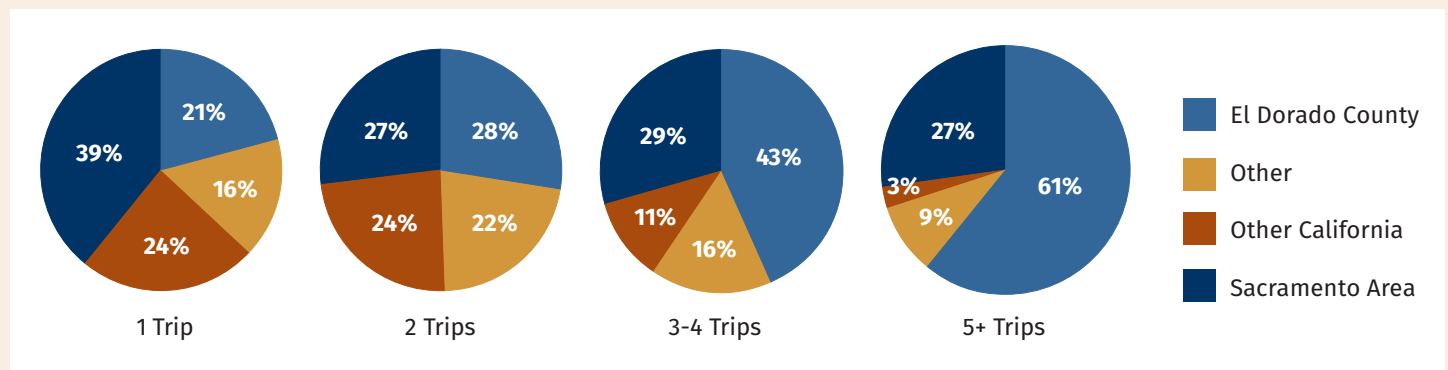
FIGURE 15
 Number of Trips per Visitor (2018)



Source: 2018 Visitor Survey, EMC Research Inc.
 Prepared by New Economics & Advisory, January 2019.

Based on the results of the Visitor Survey, two-thirds of Study Area visitors make two or more trips to Apple HillSM/Camino each year, and half of visitors make three or more trips annually to the area. Visitor Survey data suggests that the bulk of visits to Apple HillSM/Camino are made by locals (i.e. residents of the Sacramento Region) and many of these locals make multiple visits each year. About 40 percent of visitors who only come one time are travelers (i.e. from outside of the Sacramento Region); as the total number of visits increases, the share of travelers falls—only 8 percent of those who visit 5 or more times are from outside of the Sacramento Region.

FIGURE 16
 Point of Origin Trends (2018)



Source: 2018 Visitor Survey, EMC Research Inc.
 Prepared by New Economics & Advisory, January 2019.

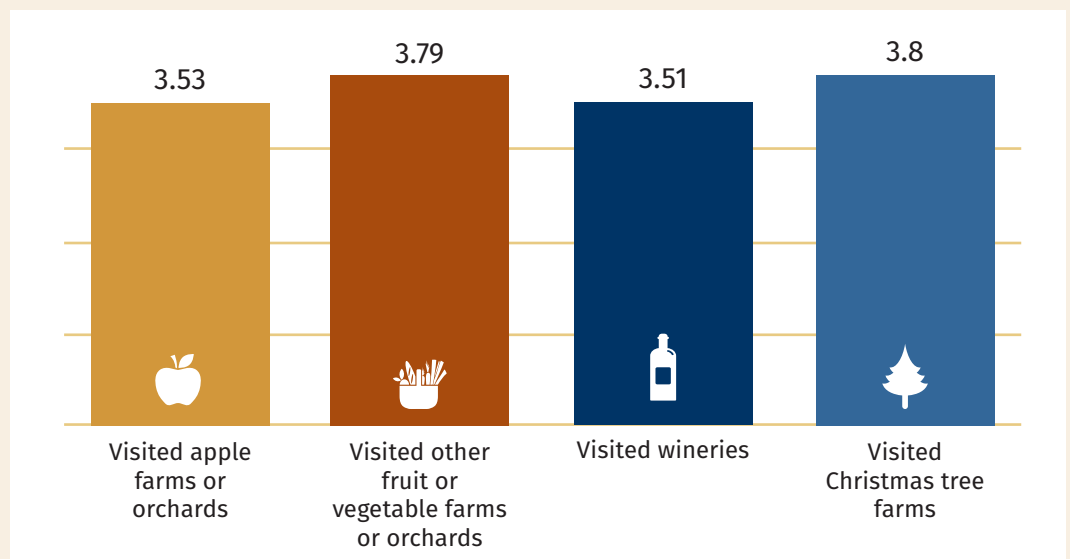
FIGURE 17
Attributes of Local and Traveler Visitors (2018)

Local Visitors ¹		Traveler Visitors ²	
More Likely To:	Less Likely To:	More Likely To:	Less Likely To:
<ul style="list-style-type: none"> ■ Visit 5+ times a year ■ Make day trips ■ Visit Apple Farms ■ Participate in U-Pick activities ■ Spend \$100 or less (per party) per visit ■ Identify traffic management as a need 	<ul style="list-style-type: none"> ■ Stay overnight ■ Visit several farms/wineries per trip ■ Dine at local restaurants 	<ul style="list-style-type: none"> ■ Come in groups with 5+ people ■ Stay overnight ■ Visit wineries ■ Dine at local restaurants ■ Visit other wineries in the County ■ Visit a greater # of farms/wineries per trip ■ Spend \$200+ per trip (per party) ■ Spend twice as much within the County on the way to and from the Study Area vs local visitors ■ Identify a need for more overnight accommodations/dining options 	<ul style="list-style-type: none"> ■ Make a day trip ■ Bring kids ages 10 and under ■ Visit multiple Christmas tree farms ■ Participate in U-Pick activities

1. Includes visitors from the 6-county Sacramento Region.
 2. Includes visitors from California (beyond the Sacramento Region), Nevada, and other states.
 Source: Visitor Survey, EMC Research Inc., 2018

The average visitor group size ranges from 3 to 4 persons. Visitors to Christmas tree farms and non-apple fruit and vegetable farms tend to have the largest average group size (3.7-3.8 persons), while apple farm and winery visitors have a slightly smaller average group size (3.5 persons). This data finding is consistent with Stakeholder Interview feedback, which indicated that apple-farm visitors tend to have an average group size of 3-4 persons, largely driven by the additional presence of children.

FIGURE 18
Average Group Size (2018)



Source: 2018 Visitor Survey, EMC Research Inc.

Prepared by New Economics & Advisory, January 2019.

Visitor Survey respondents overwhelmingly indicated that they had an excellent or good experience visiting the Study Area. These positive ratings, which mostly range from 92 to 100%, included apple farms, other fruit/vegetable farms, wineries, and Christmas tree farms. These ratings bode well for repeat visitation in years to come.

PEAK SEASON TRENDS

The Study Area has multiple peak seasons throughout the year. Numerous prior studies have established peak seasons for different types of agritourism activities: September, October, and November for fruit and vegetable farms (including apple farms); the end of November through Christmas for Christmas tree farms; and, higher levels of year-round visitation with a fall peak for wineries. The Stakeholder Interviews conducted for this Study confirmed these peak seasons, with the added refinement that wineries have an additional peak season in April.

WEEKEND VS. WEEKDAY VISITATION (FALL HARVEST SEASON)

While weekend visitation remains heavy, weekday visitation is continuing to rise, particularly during the fall harvest season. Community feedback provided during the 2016 Agritourism Mobility Study identifies a concentration of traffic congestion during 4 to 6 weekends, beginning in late September and ending in early November. Three weekends in mid to late October experience peak traffic congestion. According to this study, travel on Highway 50 in the Apple HillSM area during the fall harvest season is substantially associated with agritourism activities, particularly on weekends. During the fall agritourism season, compared to April travel patterns, up to 40% of traffic traveling through Placerville is due to the morning peak inflow of visitors from the west to the Camino area and the peak westbound outflow from the Camino area in the late afternoon.

In 2018, weekday agritourism traffic, while significantly lower than weekends during the fall season, continued to grow, while week-end traffic stagnated. Stakeholder interviews (including farms, wineries, and restaurants) conducted for this Study consistently included an observation that, during the 2018 peak fall harvest season, weekday visitation increased, while week-end visitation was flat or even decreased. The County also indicated overall lower traffic counts during 2018 fall harvest weekends. According to County staff, Caltrans reported lower traffic counts on Highway 50 during these weekends. The Visitor Survey showed that during the fall harvest season, 49% of people visited during a weekend while 51% visited during a weekday.

One or more potential factors may be influencing the shift from weekend to weekday visitation, including:

- a desire to avoid week-end traffic;
- consistently moderate weather during 2018, which may have spread total visitation across more weekends compared to prior years; and,
- increased visitation from retirees and/or those with non-traditional work schedules.



Area for Future Work: Weekend and Weekday Visitation Trends

Additional visitor surveys conducted over time could help to track the change in weekday versus weekend visitation and deepen the understanding of the factor(s) driving it.

**FRUIT &
VEGETABLE
FARM VISITORS**

Fruit and vegetable (including apple) farm visitors are predominantly local and more likely to bring children. The AHGA estimates total annual visitation of approximately 1.2 million persons, with the 8 weekend days in October likely accounting for 80-85 percent of annual visitation. This count is based on qualitative and quantitative information provided by individual ranches that monitor parking lot and sales activity. The estimated number of visitors also attempts to account for overlap—i.e. visitors who go to multiple farms on the same day.

The AHGA has also observed that while most visitors historically came from the Bay Area, local residents have come to represent the majority of Apple HillSM visitation as the Sacramento Region has grown. In recent years, a large portion of apple farm visitors are from El Dorado Hills, Folsom, Roseville, and Sacramento. A second concentration is from Nevada, including Reno and Carson City.

The typical Apple HillSM visitor can be characterized as a car with 3-4 people, nearly always with children. Over time, the profile of the average visitor has evolved to include an increasing number of middle-higher income earners and younger adults (less than 30 years of age).

Weekday visitors, which appear to be growing, tend to be older and have fewer children, although the number of children seems to be increasing as home-schooled students visit apple farms on weekdays.

Visitor groups that come to one or more apple farms during the peak fall harvest season (September-November), spend an annual average of \$146. This amount includes about \$5 on bagged apples¹, \$26 on apple-related food/drink products (such as apple pie, jam, or cider), \$17 on craft items, \$10 on other fruit/vegetable items, \$18 on meals, and approximately \$63 on wine and winery items.

1. These amounts reflect an average of spending by category for all visitors who went to fruit and vegetable farms, regardless of whether or not they spent any money. So, for example, if some people visited an apple farm but spent \$0 on bagged apples, their \$0 expenditure is included in the overall calculation of average spending. This explains why average spending is less than the average cost of a bag of apples (which is currently around \$7 according to County staff).

FIGURE 19
 Average Annual
 Spending per
 Group (2018\$)

Category	Visited Fruit / Vegetable Farm in Summer Months ¹	Visited Apple Farm in Fall Harvest Season ²	Visited Christmas Tree Farm in Christmas Tree Season ³
Bagged apples	\$5	\$5	\$2
Apple-related food or drink products	\$27	\$26	\$17
Craft Items	\$17	\$17	\$8
Other fruit/vegetable items	\$16	\$10	\$5
On-site lunch or other meals	\$21	\$18	\$14
Christmas trees	\$7	\$6	\$81
Winery and winery expenses	\$62	\$63	\$31
Total	\$156	\$146	\$157

1. Values shown in this column reflect total annual spending for all visits per respondent group who visited one or more fruit/vegetable farms during the summer season (June, July, and August). These amounts include spending elsewhere in the Apple Hill/Camino area during that visit and other visits over the course of the entire year.
2. Values shown in this column reflect total annual spending for all visits per respondent group who visited one or more apple farms during the fall harvest season (September, October, and November). These amounts include spending elsewhere in the Apple Hill/Camino area during that visit and other visits over the course of the entire year.
3. Values shown in this column reflect total annual spending for all visits per respondent group who visited one or more Christmas tree farms during the Christmas tree season (November-December). These amounts include spending elsewhere in the Apple Hill/Camino area during that visit and other visits over the course of the entire year.

Source: Visitor Survey, designed and managed by EMC Research Inc.
 Prepared by New Economics & Advisory, January 2018.



Area for Future Work: Apple Farm Visitor Spending

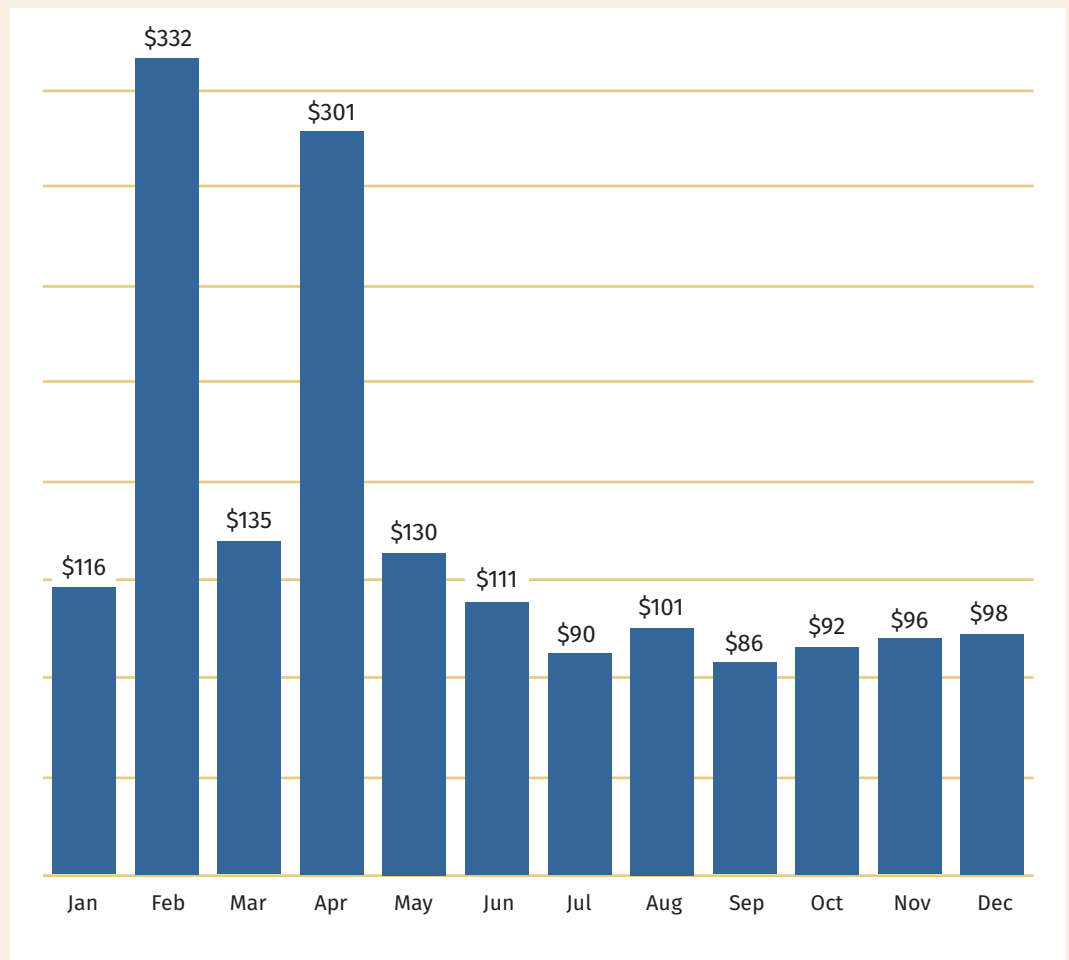
Assuming that apple farms capture all spending from bagged apples, apple-related food/drink products, craft items, and other fruit and vegetable items, the total (\$58) spent at apple farms is only a little more than half the amount estimated by the AHGA (about \$100 per group per visit). Additional survey efforts targeted toward apple farm visitors could help to refine spending estimates.

WINERY VISITORS

Winery visitors come throughout the year and spend the most per group.

Wineries command the highest amount of visitor spending per trip throughout the year. Winery-related spending per group peaks at an average of about \$330 in February and \$300 in April, which includes Passport Weekend, a 2-weekend winetasting event taking place throughout El Dorado County. During other months, average spending per group ranges from \$85 to \$130 per trip. In addition, about one-third of those who visit Study Area wineries also visit wineries elsewhere in El Dorado County during the same trip.

FIGURE 20
 Visitor Spending
 (per Group) at
 Wineries by
 Month (2018\$)



Values include those who visited wineries but report they did not spend any money there.

Source: Visitor Survey, EMC Research Inc., 2018

Prepared by New Economics & Advisory, January 2018.

Based on data from the Supplemental Winery Survey (see sidebar), wineries in the Study Area experience 8,000-37,000 visitors annually, which equates to an average of approximately 16,000 visitors per year. According to the EDCWA, winery visitors come from Sacramento, San Francisco, El Dorado Hills, Folsom, Roseville, and the Bay Area. Social media activity also notes high levels of interest from Carson City and Reno. Wineries have observed that over two-thirds of winery visitors are from the Sacramento Region. One-third of visitors come from other areas, including Nevada, the Bay Area, California's Central Valley, and elsewhere. This data is largely consistent with data collected by the Visitor Survey, which indicates that 57% of winery visitors are from the Sacramento Region.

Apple-picking season (and associated agritourism activities) is critical to sustaining winery businesses in the Study Area. Between September 1 and December 31, wineries can generate 40% or more of total yearly sales.

Winery visitors and their spending patterns evolve during the year. Outside of apple-picking season, visitors are generally more interested in and knowledgeable about wine. In contrast, apple-picking season brings more families with a curiosity about wine but generally spend less per person and exhibit a preference for sweeter wines. The increased volume of visitors during apple-picking season presents an opportunity to convert these casual wine drinkers into longer-term customers. During the fall harvest season, per-visitor spending at Study Area wineries is higher, although spending on wine is a bit lower. According to the Visitor Survey, during the apple-picking season wineries report that each visitor spends about \$50 per trip, including about \$35 on wine. In comparison, outside of the apple-picking season, wineries reported that each visitor spends about \$45 per trip, including \$40 on wine.

In addition, one-third of Study Area visitors reported that they also went to wineries elsewhere in the County during their last visit (compared to only 4 percent reporting they went to farms elsewhere on their visit). This data suggests that visitors who appreciate wine are more likely to expand their tour to include wineries both within and beyond the Study Area, generating additional economic activity for wineries throughout the County.

About the Supplemental Winery Survey

A Supplemental Winery Survey, designed by New Economics & Advisory, was shared with the EDCWA for distribution to member and non-member wineries. The Supplemental Winery Survey was designed to collect feedback about visitation, employment, and sales trends and patterns from the perspective of wineries. Six wineries in the Study Area participated in a Supplemental Winery Survey. Participating winery respondents represent approximately 45% of total wineries in the Study Area.



**CHRISTMAS
TREE VISITORS**

Christmas tree farm visitors inject a short burst of visitation and high spending at the end of the year. According to Stakeholder Interviews, in recent years, Christmas tree farms in the Study Area have experienced relatively high levels of demand for Christmas trees, which is shortening the Christmas tree season. An increasing number of customers are arriving immediately after Thanksgiving, and all trees can be sold by the end of the first week of December. These conditions are very favorable for Christmas tree farmers because they can sell all of their trees at retail rates in a short amount of time.

Also according to Stakeholder Interviews, key customers have a history of visiting El Dorado County that dates back to their childhoods; they are now returning as adults, often with their own children, to enjoy the authentic experience of cutting down a Christmas tree. While artificial trees were a more common trend during the Great Recession, improved economic conditions, along with a greater appreciation for spending time outdoors, has created a resurgence in the desire to cut down fresh Christmas trees. The long-held tradition of visiting the Study Area for Christmas trees was also observed by local restaurants that noted that many customers during this time of year are repeat patrons who have been visiting the area for years.

Those who visit during Christmas tree season (November-December) spend an average of \$157. According to Stakeholder Interviews, November-December also accounts for the largest share of full-service restaurant business in the Study Area, with the peak occurring during Christmas tree season. While the apple-picking season is busy, the Christmas tree season is busier because tree farms don't typically offer any food. The height of the peak season for local restaurants begins the day after Thanksgiving and goes through the 2nd week of December, a time period that typically includes 3 weekends.



OVERNIGHT VISITORS

Overnight visitors tend to come from farther afield and provide an opportunity for extended spending, although some of this spending is not captured by the County. According to the Visitor Survey, less than 20 percent of visitors stayed overnight on their most recent trip to the Study Area; of these overnight visitors, more than half stayed in a hotel/motel or bed and breakfast, while about 15 percent stayed with friends/family.

Stakeholder interviews indicate that the typical lodging guest is a couple, ranging in age from late 20's to 70 years old. About half of guests come from Nevada, including Reno, Gardnerville, and Carson City, followed by the Bay Area. About a third of visitors are from the Sacramento Region.

Before the Apple HillSM peak season, there is another lodging peak associated for El Dorado Passport (last 2 weekends in April). Most visitors come for wine tasting; visitors can access at least 10 wineries within a 5-mile distance.

Overnight visitors typically stay in Apple HillSM/Camino, Placerville, or Pollock Pines, and spend more than \$75 per night on accommodations. Nearly all lodging guests patronize restaurants in Placerville, particularly for dinner, as there are very limited dining options in the Study Area; dining expenditures in Placerville generate little or no sales tax for El Dorado County.



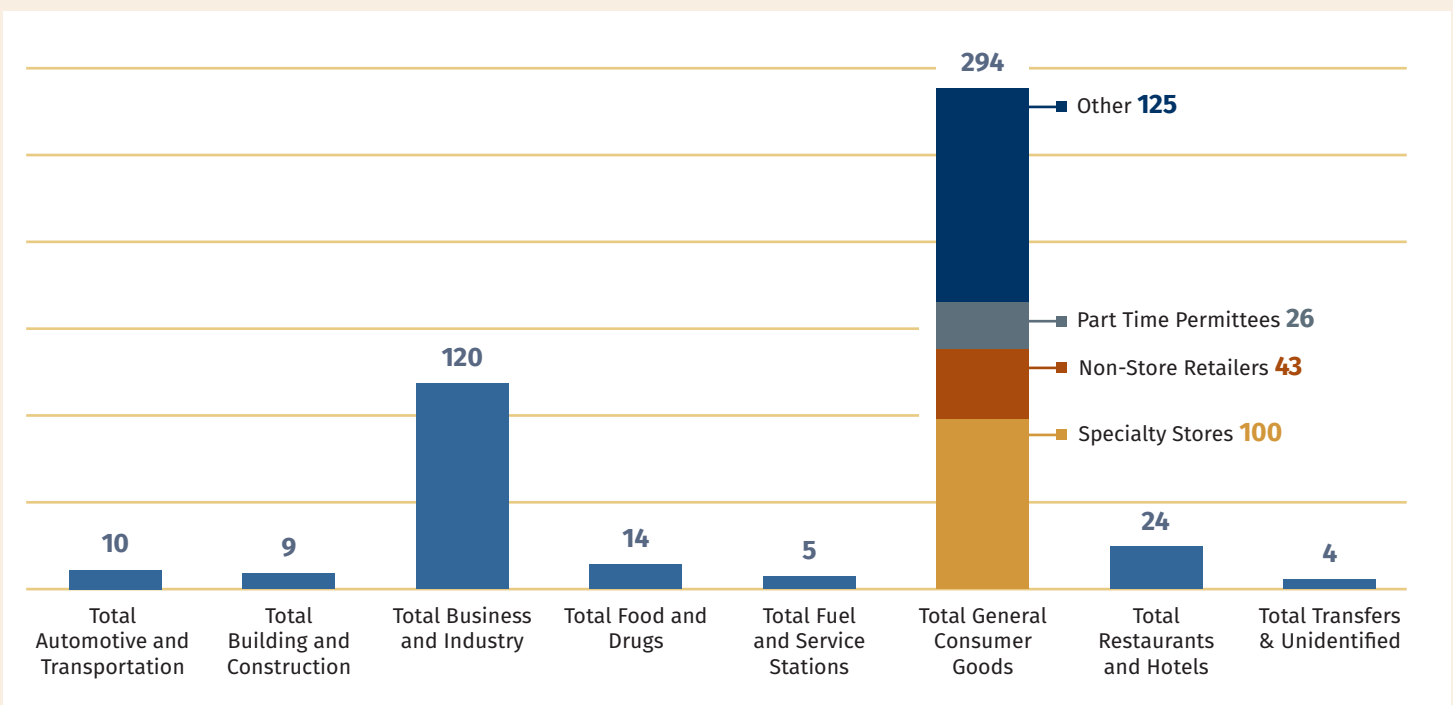
COUNTY SALES TAX REVENUES

One of the largest sources of discretionary income for the County is sales tax revenues. Because agritourism activities attracts a large number of visitors who spend money on a variety of local goods, this Study analyzes the level of sales tax generated by the Study Area.

TOTAL SALES TAX REVENUES

The Study Area generates sales tax revenue similar to share the of total jobs and businesses (2-3 percent). 480 establishments have permits to sell taxable goods in the Study Area. This figure is much higher than the total number of entities described in the Local Economic Drivers section, possibly because some businesses could be headquartered elsewhere but also conduct business in the Study Area. Another reason could be that businesses engaged

FIGURE 21
Number of Businesses by Type in the Study Area (2018)



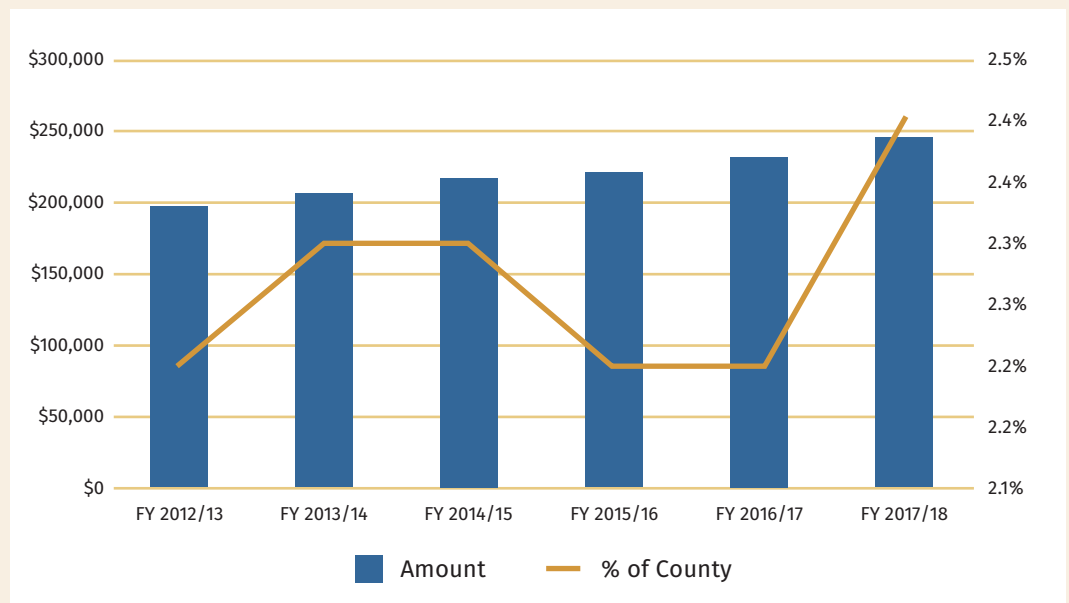
Source: El Dorado County, 2018. Prepared by New Economics & Advisory, January 2019.

solely in seasonal activities could be excluded from the other data source. In addition to those businesses included in traditional categories (such as Business and Industry, General Consumer Goods, etc.) the list of permitted establishments includes 26 Part Time Permittees, 100 Specialty Stores, and 43 Non-Store retailers registered to sell taxable goods in the Study Area; a portion of these permittees are likely craft businesses that operate there on a seasonal basis only.

The Study Area generated about \$250,000 in sales tax revenues in Fiscal Year (FY) 2017/18. This amount accounts for about 2.4 percent of total countywide annual sales tax revenues. This share, which has grown by about nine percent since FY 2012/13, is similar to the level of jobs and businesses countywide (in the range of 2-3 percent).

The Economic Impacts Section of this Study identifies a large amount of output (\$88.7 million) and direct expenditures (\$60.3 million). However, little of these amounts translates into sales tax revenues for the County because most agricultural sales are not taxable. Only value-added items such as wine, crafts, and hot meals consumed on-site are taxable. Hot bakery and beverage items, as well as candy, snack foods, and bottled water, are not taxable.

FIGURE 22
Sales Tax Revenue
Generated in the
Study Area



Source: El Dorado County, 2018.

Prepared by New Economics & Advisory, January 2019.

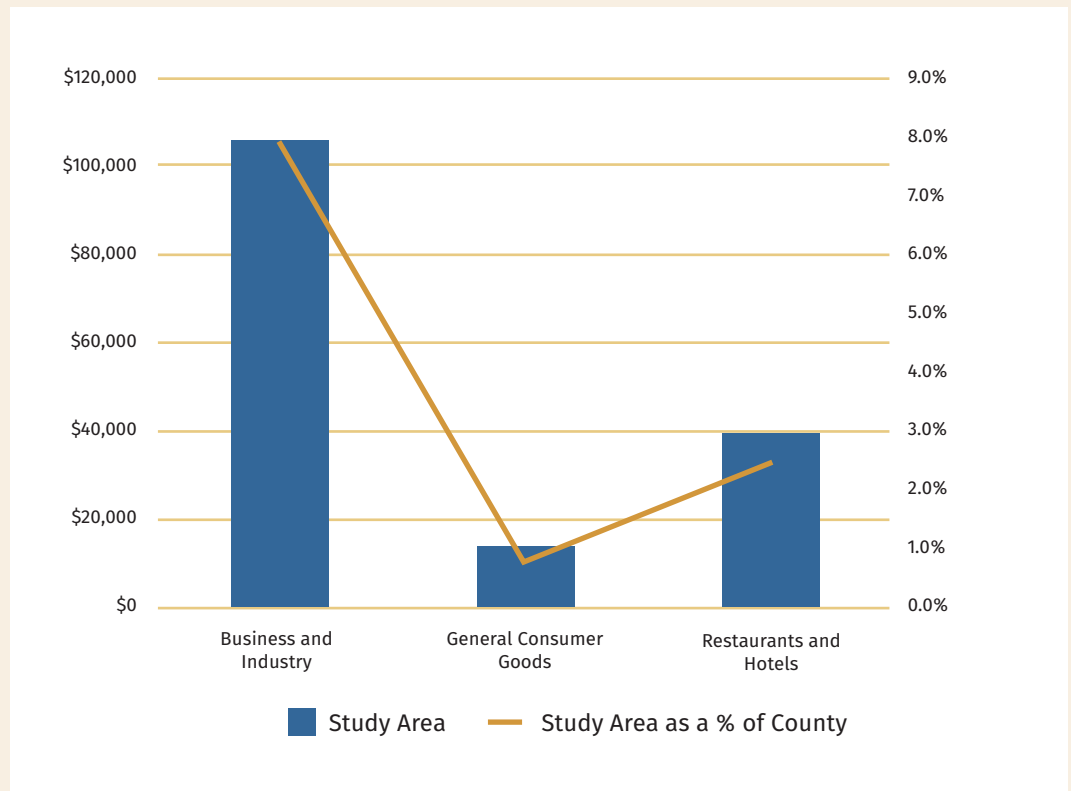
**AGRITOURISM
 SALES TAX
 REVENUES**

Most sales tax revenue generated in the Study Area comes from agritourism.

The Study Area accounts for nearly 8 percent of sales tax revenues generated by the Business and Industry category countywide. This category includes wineries, garden/agricultural supplies, repair shops and equipment rentals, medical/biotech, business services, food service equipment/supplies, industrial businesses, and convenience stores, among others.

Sales tax revenues also have been growing rapidly for establishments in the categories most likely correlated with agritourism activities. These categories include Business and Industry, General Consumer Goods, and Restaurants and Hotels categories. Other categories, such as Automotive and Transportation, Building and Construction, and Food and Drug, which likely cater more to local residents, have generated flat or decreasing revenue levels for the County.

FIGURE 23
 Sales Tax Revenue
 From Agritourism
 (2018)



Source: El Dorado County, 2018.

Prepared by New Economics & Advisory, January 2019.



Area for Future Study: Taxable Sales Filing and Reporting

This Study observed two ways in which taxable sales may be underreported: the number of craft vendors that have a sales permit and the amount of sales that are being reported.

The State of California requires businesses to obtain a temporary seller's permit if sales are conducted in a place for less than 90 days; if the business already has a seller's permit for a permanent place of business but also makes sales at a temporary location, the business must register for a sub-permit for each temporary location.

The total number of part-time, specialty store and non-store permittees (169) may or may not accurately reflect the number of craft vendors operating during the peak fall harvest season. Based on two site visits, interviews with local stakeholders, and website research, New Economics estimates that there are over 150 craft booths and/or outside vendors doing business associated with agritourism activities in the Study Area, mostly during the fall harvest season. Some of these craft vendors may be based elsewhere and use their regular permit; a very high number of regular permits for specialty stores (100 permits) and non-store retailers (43 permits) potentially supports this notion. Presumably, taxable sales associated with a sub-permit tied to the ranch location where the craft booth is located would be captured by El Dorado County.

Second, informal discussions and observations of craft vendors also suggest that some vendors may not report all cash sales, while others share credit card processing technologies (and it's unclear how such sales are reported). To the extent that taxable sales go underreported in one or more ways, the County would receive less sales tax revenues than it should. In addition, farms and wineries that host 2 or more people or businesses offering merchandise for sale or exchange and charge those sellers a fee for space rental or charge buyers admission fees must keep written records of all sellers. Required information includes the seller's permit number and a description of items sold or displayed. This requirement suggests that farms and wineries charging vendors space rental fees would be able to quickly provide verification of appropriate sellers' permits.

Additional research by the County, in conjunction with its sales tax consultant and/or the State of California, would be needed to further evaluate this dynamic.



COUNTY TRANSPORTATION MANAGEMENT COSTS

Traffic congestion in the Study Area during the fall harvest season is an issue consistently identified by both the local community and visitors. This Study estimates the annual cost of traffic management borne by the County each year.

TRAFFIC CONGESTION

Congestion in the Study Area remains a significant issue. Rural roads in the Study Area are generally designed to accommodate 200-400 cars per day. Peak-season traffic, however, has historically brought approximately 7,000 cars per day. Some roads experience high levels of traffic during the peak season *and* off-season. For example, Carson Road has historically carried 800 cars per day during the off-season and 5,900 cars per day during peak season.

Because of the historically high levels of traffic in the Study Area during this time, the County and EDCTC have engaged in multiple efforts to better understand transportation challenges and potential solutions. In addition to capital improvements undertaken by both the private and public sector, the County and the EDCTC have actively engaged with Caltrans to improve connectivity between Highway 50 and the Study Area. Moreover, the County has also periodically implemented a shuttle service, including during the 2018 season, as well as other traffic control measures.

During 2018, the County estimated 6,000 cars a day during the fall harvest season, which is about 1,000 fewer cars than the historical average. As described in the Visitation Patterns section of this Study, these lower counts are likely attributed to multiple factors, including fewer weekend visitors overall. Other factors could include the use of the transit shuttle, the potential dispersal of weekend visitation over a greater number of weekends, a shift of some visitors to weekdays, etc.

Two in ten respondents of the Visitor Survey indicated they had difficulties parking somewhere in the area. The most prevalent suggestion from the Visitor Survey to improve the visitor experience is traffic management. Respondents requested better signage and walkways. The majority also noted that there was a substantial amount of traffic congestion, and some observed that certain exits were closed. Finally, a lack of sufficient parking was a common concern stated by visitors.



COUNTY TRANSPORTATION MANAGEMENT COSTS

TOTAL TRANSPORTATION MANAGEMENT COSTS

The County expends far more on traffic management than the amount produced by sales tax revenues each year. Total annual County expenditures for Study Area traffic management during 2018 was over \$700,000, which far exceeds the \$250,000 in annual sales tax revenues generated by establishments in the Study Area.

FIGURE 24
Annual County Transportation Costs (2018\$)

Category	Amount
Supplemental Road Maintenance ¹	\$10,000
Peak-Season Traffic Control	\$300,000
Peak-Season Transit Support	\$100,000
Interchange Support ²	\$291,200
Total	\$701,200

1. Level of road maintenance needed to adequately maintain rural roads in the Study Area.
2. Staff time costs associated with the implementation of U.S. 50 through Camino-Interchange.

Source: County of El Dorado State of California Adopted Budget for the Fiscal Year 2017-2018; City Staff.

Prepared by New Economics & Advisory, January 2019.

ANNUAL MAINTENANCE AND PROGRAMMING COSTS

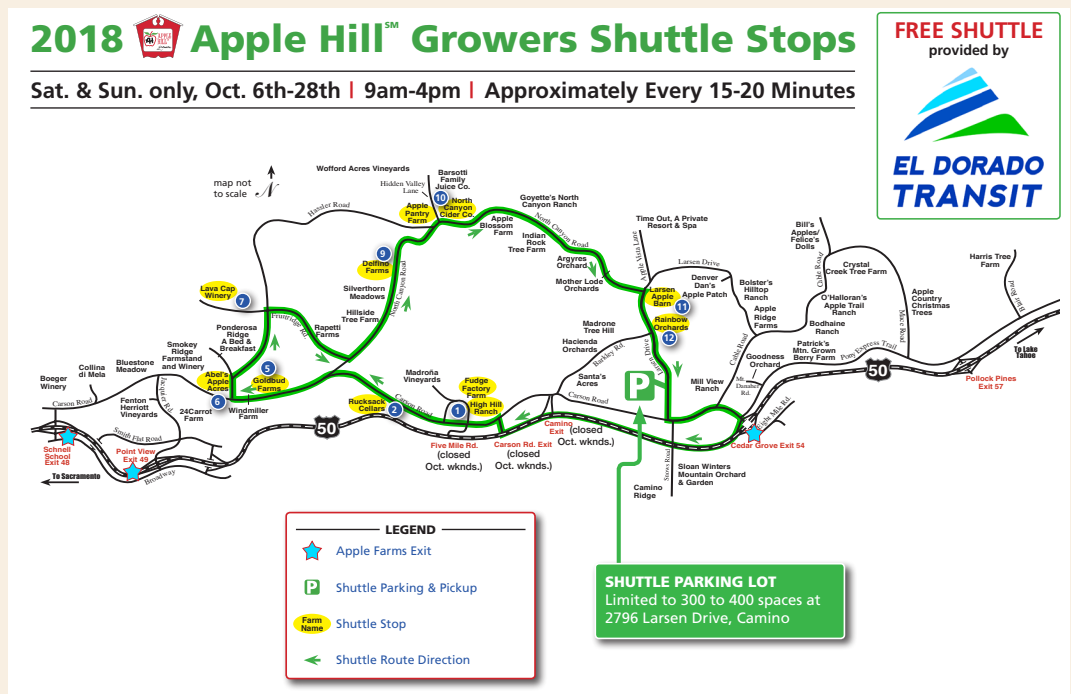
High traffic on rural roads caused by Study Area visitors over the course of the year requires the County to fund an additional \$10,000 per year on standard road maintenance in the Study Area. In 2018, the County spent a total of \$400,000 on peak-season, week-end traffic control. This amount included \$300,000 to manage road closures and traffic. During peak season weekends, road closures were located on the westbound direction of Carson Road. To control traffic and manage road closures, the County utilized seven CHP officers with patrol cars, 10 flagmen, five County staff, 10 service vehicles, more than 1,000 cones, 50 barricades, 100 signs, and four large electronic message signs each day for 8 hours.

COUNTY TRANSPORTATION MANAGEMENT COSTS

The County has also periodically implemented a shuttle bus system during the peak Apple HillSM season to lessen wait times, decrease the burden on local roads, and maintain emergency vehicle access during peak visitation in the Study Area. In 2018, the weekend shuttle program cost \$400,000, of which \$100,000 was from the County General Fund. Other funding sources included a \$250,000 grant from the El Dorado County Air Quality Management District, as well as additional support from SMUD, SACOG, and Sierra Pacific Industries.

For the 2018 fall harvest season, the shuttle operated for 4 weekends, from 9am to 4pm with headways of 15-20 minutes. To use the shuttle, drivers were encouraged to take the Highway 54 exit (Camino/Cedar Grove) and park at the large lot on Larsen Road. From there, the shuttle, which was free for passengers, made 12 stops with walking distance of 14 apple farms. While very few respondents to the Visitor Survey reported using the free shuttle system—only four percent of those who visited in October-- visitors from “Other CA” were most likely to use the shuttle. This area includes the Bay Area, Central Valley, and other California communities outside of the Sacramento Region. This data is consistent with anecdotal information shared by County Department of Transportation staff, who had observed that Bay Area residents seemed more comfortable leaving their cars to ride the shuttle.

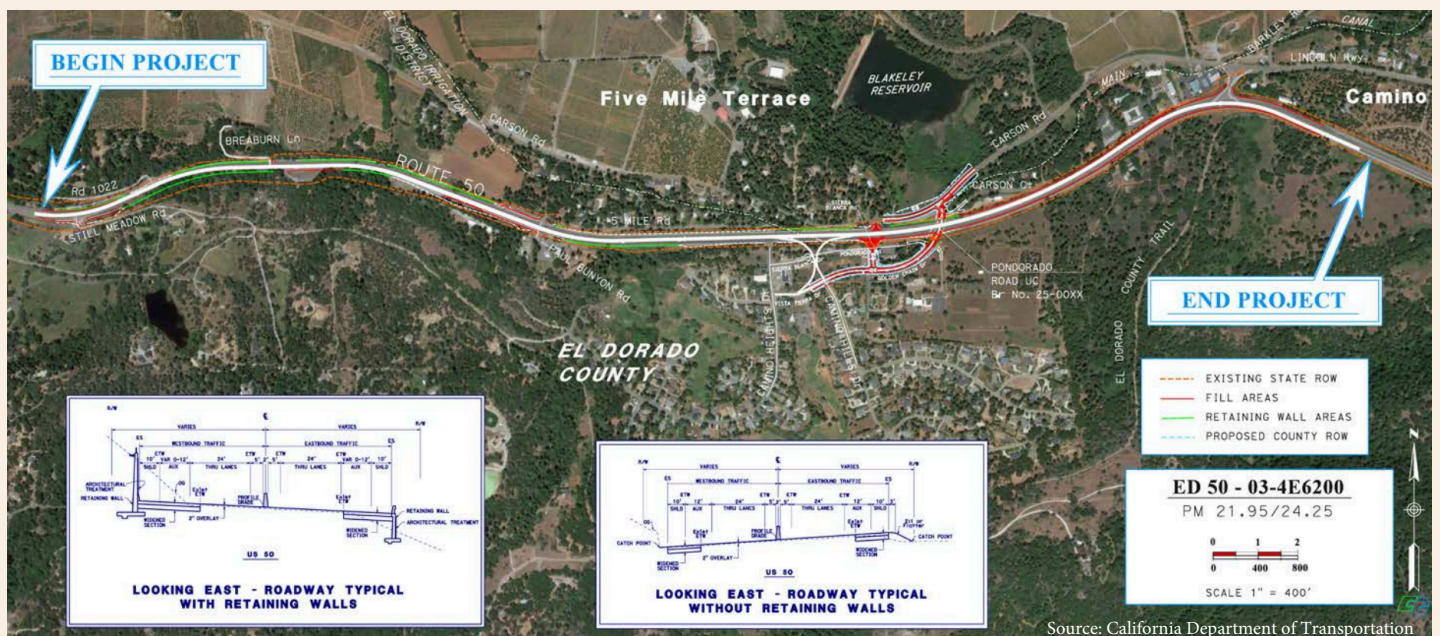
FIGURE 25
2018 Weekend Shuttle Map



COUNTY TRANSPORTATION MANAGEMENT COSTS

In addition to annual rural road maintenance and traffic support services costs, the County has also dedicated funding to support a variety of capital improvement projects in the Study Area. The largest of these projects is the US 50 Camino Area Safety Project. The County spends up to \$300,000 per year in staff time supporting this project. The goal of the US 50 Camino Area Safety Project, led by Caltrans with support from the County's DOT, is to improve access and reduce accidents in the Camino Area. The project includes two primary components. First, there will be an installation of a concrete center median along US 50 at the Camino exit to Carson Road. This exit currently has an at-grade intersection and contains an eastbound left turn across westbound travel; the new median will serve to prevent head-on collisions, which are statistically more fatal. To make up for loss of access to Carson Road for eastbound travelers, the project secondly includes the construction of a new interchange to provide north/south connectivity and a safe ingress/egress from US 50 at Carson Road.

FIGURE 26
US 50 Camino Area Safety Project Map



Source: California Department of Transportation

CAPITAL IMPROVEMENTS

The County is also investing an increasing amount of General Fund monies on capital improvements in the Study Area. Additional capital improvements have included culverts, canal bridges, and slip outs. Because of excessive rain in recent years, to maintain the structural integrity of existing roads the County has expended funds to design, construct, and maintain these projects. Historically, only about 1 percent of the County’s Annual Capital Work Program has been spent in the Study Area; however, in FY 2016/17 and FY 2017/18, capital improvement projects there accounted for 4-6 percent of the annual work program. While state and federal funds have often been leveraged for these projects, the County expended \$150,000 alone in FY 2017/18; this amount is far higher than prior years. Major capital projects in the Study Area have included:

- U.S. 50 through Camino Interchange
- Blair Road over EID Canal—Bridge
- Alder Drive at EID Canal—Bridge
- 2017 Cable Road Culvert Damage
- 2017 Pony Express Trail Slipout

FIGURE 27
Annual Work Program

Category	FY 2012/13		FY 2013/14		FY 2014/15		FY 2015/16		FY 2016/17		FY 2017/18	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Total Annual Work Program Budget ¹	\$51,178,421		\$53,147,273		\$62,791,616		\$46,147,781		\$43,340,951		\$51,178,421	
Study Area Projects	\$2,112,437	4%	\$650,000	1%	\$502,970	1%	\$403,750	1%	\$2,762,933	6%	\$2,112,437	4%
County Funding Share of Study Area Projects	\$0	0%	\$0	0%	\$15,000	3%	\$0	0%	\$27,860	1%	\$149,336	7%

1. Cost Center 305 as reported in the County's annual budget.

Source: County of El Dorado State of California Adopted Budgets for Fiscal Years 2017/18, 2016/17, 2015/16, 2014/15, 2013/14, and 2012/13.

Prepared by New Economics & Advisory, January 2019.



Area for Additional Work: Shuttle Effectiveness

Evaluation of the extent to which implementation of the shuttle reduces wear and tear on local roads and/or congestion to facilitate additional week-end visitation levels and the financial implications of these changes could help determine the overall effectiveness of a shuttle program.